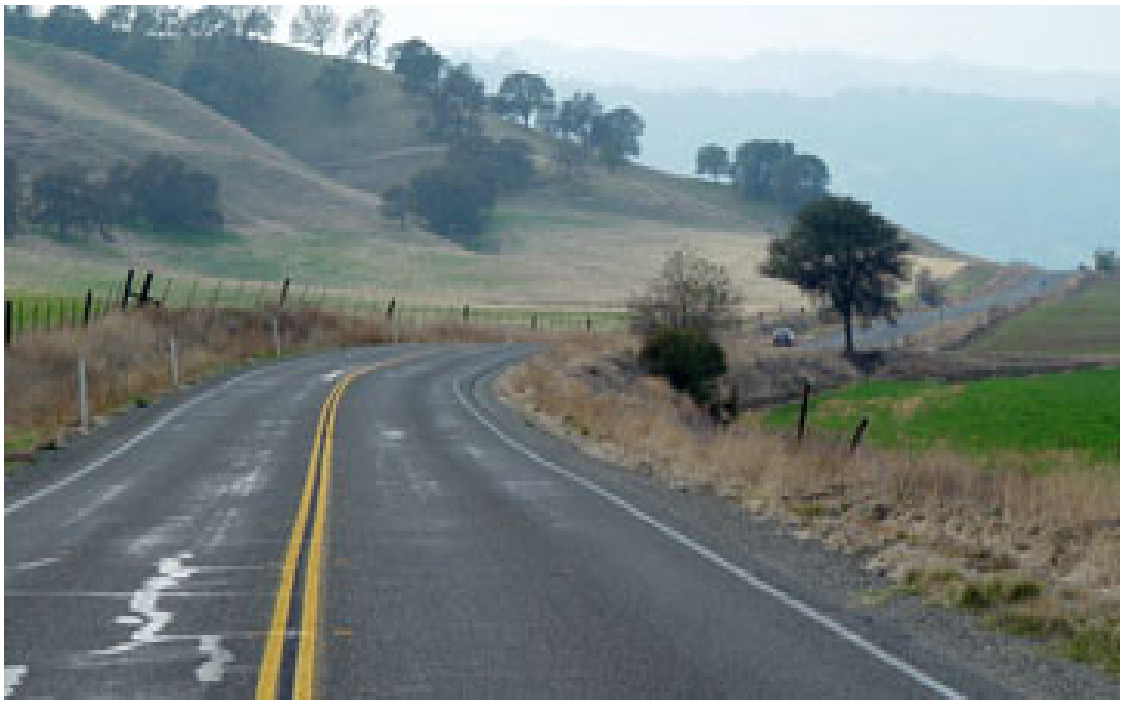
State Route 16
Safety Improvement Project

YOLO COUNTY, CALIFORNIA
DISTRICT 3 – YOLO – 16, KP 29.8/51.0 (PM 18.5/31.7)
EA: 0C4700

Environmental Impact Report / Environmental Assessment



Prepared by the
U.S. Department of Transportation
Federal Highway Administration
and the
State of California Department of Transportation

December 2005

GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) have prepared this Environmental Impact Report/Environmental Assessment, which examines the potential environmental impacts of the proposed project located in Yolo County, California. The document describes why the project is being proposed, the existing environment that could be affected by the project, the potential impacts, and the proposed avoidance, minimization and/or mitigation measures.

What you should do:

Please read this Environmental Impact Report/Environmental Assessment. Additional copies of this document as well as the technical studies are available for review at the Esparto Library (17065 Yolo Avenue Esparto, CA 95627) Monday through Thursday, from 1 PM to 8 PM, and Saturday, 10 AM to 2 PM. The document is also available on the Internet at www.dot.ca.gov/dist3/projects/yolo16/ or at Caltrans District 3 Office, 2389 Gateway Oaks Dr., Suite 100, Sacramento, CA 95833 M-F from 8 AM-4 PM.

If you have any concerns regarding the proposed project, please attend the Public Information Meeting that will be held on **January 4, 2006** from **3 PM to 8 PM** at the Esparto Community Hall, 17020 Yolo Avenue in Esparto, CA.

We welcome your comments. If you have any comments regarding the proposed project, please attend the public meeting and/or send your written comments to Caltrans by the close of the comment period **January 23rd, 2006**. You may submit comments via email to Karen_McWilliams@dot.ca.gov. Submit comments via postal mail to:

Karen McWilliams, Chief
Office of Environmental Management S-2
Caltrans District 3, Sacramento Area Office
2389 Gateway Oaks Drive
Sacramento, CA 95833

What happens next:

After comments are received from the public and reviewing agencies, Caltrans and the FHWA may: (1) give environmental approval to the proposed project, (2) conduct additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please contact the Caltrans Public Information Office at (530) 741-4571 or (530) 741-4509 (TTY).

SCH# 2003062089

03-Yol-16 KP 29.8/51.0
(PM 18.5/31.7)
EA: 03-0C4700

The Yolo 16 Safety Improvement Project would reconstruct the highway to current design standards with the intent of reducing the rate and severity of accidents on State Route 16 from 0.3 kilometer west of County Road 78 near Brooks to the South Fork Willow Slough Bridge east of Madison, KP 29.9/40.5 (PM 18.6/25/2), KP 41.4/43.8 (PM 25.7/27/2), KP 44.9/51.0 (PM 27.9/31.7)

DRAFT
ENVIRONMENTAL IMPACT REPORT
ENVIRONMENTAL ASSESSMENT AND
SECTION 4(f) EVALUATION

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)© and 40 USC 303
U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
Department of Transportation

30 November 2005
Date of Approval

for KATRINA PIERCE, Chief
North Region Division of Environmental Planning
California Department of Transportation

11/30/05
Date of Approval

for GENE K. FONG
Division Administrator
Federal Highway Administration

Summary

INTRODUCTION

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) have prepared this Draft Environmental Impact Report/Environmental Assessment (EIR/EA) to provide information and solicit input on the potential environmental effects of the proposed Yolo-16 Safety Improvement Project. This EIR/EA evaluates the impacts associated with construction and operation of improvements to State Route (SR) 16 in Yolo County from the Cache Creek Casino easterly to its intersection with Interstate 505 (I-505) (kilopost (KP) 29.8/51.0 [postmile (PM) 18.6/31.7]).

PROJECT BACKGROUND

This project has been developed with the goal of reducing the rate and severity of collisions on SR 16. The existing facility is a two-lane conventional highway, consisting of 3.6 m (12 ft) lanes, 0.0 to 0.6 m (0 to 2 ft) shoulders within a right of way of varying width. The highway east of Esparto to Interstate 505 (I-505), crosses through low-lying farmland and is subject to flooding in the winter.

There are several non-standard curves, sight distance problems and intersections that do not meet current design standards. Applying current design standards to SR 16 is expected to reduce the rate and severity of collisions.

This project does not provide additional capacity and would not appreciably affect the Level of Service (LOS).

ACCIDENT RATE

SR16 has a history of a higher than average number of collisions between the community of Brooks and I-505 in primarily rural, western Yolo County. Caltrans has performed multi-year traffic studies on this segment of SR 16 and found higher than average collision rates when compared to similar facilities statewide. A safety evaluation performed for the route revealed a collision rate of approximately twice the statewide average.

PROJECT DESCRIPTION

The proposed improvements would widen the roadway from approximately 7.3 m (24 ft) to approximately 12 m (40 ft) to maintain two 3.6m (12 ft) travel lanes and provide standard 2.4 m (8 ft) shoulders on both sides of SR 16 for the length of the project. Beyond the shoulder, 3.6 m (12 ft) will be cleared of any obstacles. The shoulder and cleared area make up the 6 m (20 ft) clear recovery zone (CRZ), which will provide errant vehicles an increased opportunity to regain control. In addition to the CRZ, the proposed project includes the widening or replacement of three bridges, constructing standard horizontal geometrics, improving vertical and super

elevation roadway geometrics and providing left-turn pockets at several public road connections. SR 16 between Esparto and I-505 would be raised above the 100-year flood level. At the west end, improvements are proposed to facilitate safer ingress and egress from the Cache Creek Casino.

GENERAL FEATURES OF BUILD ALTERNATIVES

The full scope of the proposed project can be better understood by supplementing the following description with the maps and design plans that are included in this document. Figures 1 shows the regional location of the project in Yolo County. Figures 2a and 2b show the limits of the project along SR 16. Appendix A contains detailed project plans for the design alternatives currently being considered. Appendix B contains typical cross sections of the proposed improvements.

The proposed project would make improvements from near the town of Brooks at the west end of the project, about 275 m (902 ft) west of CR 78 (KP 29.9, PM 18.6). The project continues east and ends at the South Fork Willow Slough Bridge (KP 50.9, PM 31.65). The project does not include improvements within the towns of Capay or Esparto. Esparto and Capay do not exceed the statewide accident average and are therefore not included in the proposed safety improvement project. Separate projects have been proposed to provide improvements to SR16 within the towns of Capay and Esparto.

The gap begins at the west end of Capay at the Capay Canal Bridge and extends about 180 m (591 ft) east of CR 85 (KP 40.5/41.4 [PM 25.1/25.7]). In the town of Esparto, the project would stop on the western edge of town about 200 m (656 ft) west of Jensen Lane until about 135 m (443 ft) east of CR 87 (KP 43.7/44.9 [PM 27.2/27.9]).

The project consists of six segments, each of which has one or more options. All segments have common design features: 3.6 m (12 ft) wide lanes, 2.4 m (8 ft) wide shoulders and a CRZ of at least 6 m (20 ft) from the edge of traveled way. Left turn lanes are included at appropriate locations and are listed with the description of the segments that follow. The design speed is 90 kph (55 mph), so horizontal and vertical curves, profile grade and super elevation must meet that minimum standard and be consistent throughout.

Generally, changes to horizontal and vertical geometry occur adjacent to the existing roadbed, rather than directly on it. The majority of the construction will be accomplished by building half of the proposed alignment while traffic utilizes the existing road. The next stage will move traffic to the newly constructed portion of the road while the old roadbed is removed and the

remainder of the new alignment is constructed. Staged construction will be generally uncomplicated and would minimize delays to the traveling public.

Segment 1 From 275 m (902 ft) west of CR 78 to 100 m (328 ft) east of CR 78A (KP 29.95/32.6 [PM 18.6/20.2])
This segment is in the area of a California Department of Forestry (CDF) Fire Station, the Brooks Post Office and the Rumsey Rancheria Casino and has three options. The length for Options 1 and 2 is approximately 2.62 km (1.63 mi); Option 3 is approximately 2.72 km (1.7 mi). Options 1 and 2 realign SR 16 away from the casino entrance in order to provide for smooth traffic flows. All options provide:

- Signalized intersection on SR 16 for Casino entrance
- Left turn lanes at CR 78 and 78A and at both casino entrances
- A new bridge over Taylor Creek

Option 1: West End Realignment. This option diverges from existing SR 16 in the vicinity of CR 78 and runs parallel to the existing road for about 1.7 km (1.06 mi) at an offset of about 180 m (591 ft), then turns toward existing SR 16 and runs adjacent to it for the remaining length of the segment, about 900 m (2953 ft). A portion of existing SR 16 will be relinquished to Yolo County to provide access to the CDF Fire Station and the Post Office.

Option 2: Realignment. This option diverges from existing SR 16 near CR 78 and runs diagonally, merging with existing SR 16 near CR 78A. The maximum offset is about 230 m (755 ft). A portion of existing SR 16 would be relinquished to Yolo County to provide access to the CDF Fire Station and the Post Office.

Option 3: Widen Near Existing. This option widens to the south of existing SR 16, with proposed right of way contiguous to the existing right of way. Left-turn lanes would be provided from SR 16 to the CDF Fire Station and the Post Office.

Segment 2 From 100 m (328 ft) east of CR 78A to 85 m (279 ft) west of CR 80 (KP32.6/34.3 [PM 20.2/21.3])

This segment is 1.76 km (1.1 miles) long and has only one option, which is to widen to the south, away from Taylor Creek. Left-turn lanes would be constructed at CR 79. The location was selected to avoid environmental impacts to the creek.

Segment 3 From 85 m (279 ft) west of CR 80 to 250 m (820 ft) west of CR 81 (KP 34.3/35.3 [PM 21.3/21.9])

This segment is in the area known locally as Taber's Corner and has two options. The length of the curve realignment is approximately 980 m (3215 ft) for Option 1 and approximately 960 m (3150 ft) for Option 2. Both options provide a left turn lane at CR 80.

Option 1**:** Avoid Taylor Creek. This option diverges from existing SR 16 and sweeps to the south, then rejoins the current alignment avoiding all impact to Taylor Creek to the north. Both curves have a 450 m (1476 ft) radius. The location was selected to avoid environmental impacts to the creek.
Option 2: Impact Taylor Creek. This option diverges from existing SR 16 and sweeps to the south, then rejoins at a location that impacts Taylor Creek. A retaining wall would need to be placed in Taylor Creek to accommodate this alternative alignment. This design was developed to avoid impacting the Taber's corner property, which had been identified as a historic resource.

Segment 4 From 250 m (820 ft) west of CR 81 to Capay Canal Bridge (KP 35.3/40.5 [PM 21.9/25.1])

This segment is approximately 5.2 km (3.2 mi) long and has only one option, which is to widen near the existing alignment. At the west end the widening would be to the south to avoid Taylor Creek. About 700 m (2297 ft) from the beginning of this segment the alignment crosses existing SR 16 and widens to the north to the end of the segment at Capay Canal Bridge. Widening to the north avoids hilly terrain that would require extensive cuts and fills, thus minimizing earthwork impacts and costs. Left-turn lanes would be constructed at CR 81, CR 82 and CR 82B. This segment crosses three creeks: Saltroy Creek, Salt Creek and Willow Creek. All crossings will be accomplished with reinforced concrete box culverts. The end of the segment conforms to the existing roadway to the west of the Capay Canal Bridge. There is a gap in this project at the town of Capay between Segment 4 and Segment 5.

Segment 5 From 180 m (591 ft) east of CR 85 to 200 m (656 ft) west of Jensen Lane (KP 41.5/43.7 [PM 25.8/27.2])
This segment resumes the safety project between Capay and Esparto. It is about 2.2 km (1.4 mi) long and has only one option. The existing road runs eastbound from Capay, then turns southbound (on a 244 m [800 ft] radius curve) and then turns eastbound again (on a 259 m [850 ft] radius curve). Widening is generally near existing SR 16, with improvements to the horizontal alignment; the curves would be upgraded to radii of 420 m (1378 ft) and 310 m (1017

ft) respectively. The eastern 600 m (1969 ft) of this segment will be widened equally on both sides. Another improvement is the minor realignment of CR 85B to improve sight distance and safety. It currently intersects SR 16 on the 244 m (800 ft) radius curve, but will be relocated to the tangent between the two curves. A left turn lane will be constructed on SR 16 at this intersection. This segment is mostly orchards and the widening will not require any residential purchases. There is a gap in this project at the town of Esparto between Segment 5 and Segment 6.

Segment 6 From 135 m (443 ft) east of CR 87 to South Fork Willow Slough Bridge (KP 44.8/50.9 [PM 27.9/31.6])
This segment resumes the safety project east of Esparto and continues for about 5.3 km (3.3 mi) to the projects eastern end at the South Fork Willow Slough and includes two options. Both options employ the same roadway design, with widening primarily to the north. The profile would be raised above the 100-year flood plain, but each option addresses drainage issues differently. Both options include an earthen berm to be constructed to provide 100-year flood protection for the southbound I-505 off-ramp to SR 16. Both options include left-turn pockets at CR 88A and CR 88B; and a continuous two-way left-turn lane would be constructed north of the town of Madison to provide turning movements for Tutt Road, CR 89 and the Yolo County Housing Authority. A new reinforced concrete box culvert would be constructed approximately 700 m (2297 ft) east of CR 86A to convey water in South Fork Willow Slough to the north of SR 16. This would replace the existing reinforced concrete box culvert located approximately 100 m (328 ft) west of Oakdale Ranch Road. Another reinforced concrete box culvert may be needed to pass floodwaters under SR16 between Madison sewer ponds and South Fork Willow Slough Bridge, depending on the feasibility of attenuating flood flows with either of the options described below. This segment would conform to the existing SR 16 alignment at the eastern end of the project, just west of the existing South Fork Willow Slough Bridge near I-505.

Option 1: Yolo County Flood Improvement Partnership. This option was developed cooperatively with the Yolo County Flood Control Agency to lessen the effects of flooding on the community of Madison. SR 16 would be raised above the 100-year floodplain and the highway embankment would redirect flood flows around the north of Madison. Madison would continue to be susceptible to flooding from the south and west; however, many flood events will be less severe. In addition to raising the level of SR 16, the canal network would be improved to accommodate flood flows and easements will be purchased from adjacent farmland to detain flood flows and provide for slow release into existing channels.

Option 2: Widen And Raise SR 16. This option raises SR 16 above the 100-year floodplain and passes flood flows under the highway at most of the current locations. The volume of the flows at each location after project construction will match the volume of the pre-project flows except at the Madison Migrant Housing Center. The flood flow that currently enters the Madison Migrant Housing Center will be redirected to the east around the Madison Sewer Ponds.

MAJOR POTENTIAL IMPACTS

More detailed information regarding these potential impacts can be found in the appropriate sections.

FARMLAND CONVERSION

Much of the land adjacent to SR16 in the Capay Valley is either Prime Farmland or Farmland of Local Importance. In addition to farmland provided by the County via zoning, much of the farmland on both sides of SR16 in the area is under Williamson Act contracts, which provide tax incentives for farms.

The proposed project would require the conversion of farmland. Based on consultation with the Natural Resource Conservation Service (NRCS), it was determined that the alternative alignments presented for Segment 1 present an opportunity to minimize impacts to agricultural resources. Of the three alternative alignments both Options 1 and 2 would have a substantial impact on farmland resources. Option 3 affects substantially less prime and unique farmland.

THREATENED AND ENDANGERED SPECIES

While habitat for many sensitive plant and animal species is found within the project area, the valley elderberry longhorn beetle (VELB) is the only threatened or endangered species known to inhabit the project area. Surveys noted thirty-three valley elderberry shrubs growing within the proposed permanent impact zone within the project study area. The elderberry shrub is habitat for the federally endangered VELB. Caltrans and FHWA will consult with the US Fish and Wildlife Service (USFWS) regarding the projects impacts and appropriate mitigation measures.

ARCHEOLOGICAL RESOURCES

The project will directly impact a combined historical and archaeological site, which has been determined to be eligible for the National Register of Historic Places (NRHP). Although much of the integrity of the combined historical and archaeological site within the ADI has been compromised due to the previous construction of the road, areas of intact deposits survive within the project's APE that have yielded a wide variety of cultural artifacts. In addition, the presence of prehistoric human bone fragments within the ADI and the fact that burials have been

identified at the site in the past suggests that additional human remains may be encountered during ground disturbing activity.
In order to mitigate for the adverse effect to the combined prehistoric/ historical archaeological site, a Phase III Data Recovery investigation will be implemented in accordance with the terms of a Memorandum of Agreement (MOA) that will be executed between the Federal Highway Administration and the State Historic Preservation Officer (SHPO).

HISTORICAL RESOURCES
One area, known locally as 'Tabers Corner,' has been determined to be eligible for inclusion in the NRHP as an outstanding example of a late 19th and early 20th-century family run farming complex. The proposed project includes two alternative alignments for this area, referred to as Section 3 on the layouts included in the appendices
The proposed project would likely result in the removal of, as yet, unspecified number of almond trees dating to the 1890s, which are a contributing element of the historic resource. The projects adverse impacts to Taber's Corner will be mitigated through a Memorandum of Agreement (MOA) that will be executed between the FHWA and SHPO.

AREAS OF CONTROVERSY
A myriad of comments have been made and issues raised during the public outreach efforts. Following is a sample of the concerns raised by the community and the Resource Agencies. This list is not all-inclusive of the concerns raised but rather serves to highlight recurring issues.

Scope of Proposed Project – Concern that the proposed improvements may be more extensive than the safety problem warrants.
Shoulder Width - Concern that wider shoulders may be utilized by some motorists to pass illegally on the right.
Lower Speed Limit - Concern that lowering the speed limit to below 55 miles per hour might address the problem sufficiently.
Effectiveness of Improvements - Concern that the proposed improvements may not address the safety issue due to the projected increase in traffic.
Bypass Route Alternative – Suggestion that a bypass from I-505 to the Cache Creek Casino might divert a substantial amount of traffic from SR 16 and thereby improve safety on SR 16.
Interchange for Cache Creek Casino – Suggestion to construct an underpass as an access point to Cache Creek Casino rather than an intersection.
Farmland Conversion – Concern that the project might remove a large amount of farmland from agricultural use.

PERMITS AND APPROVALS NEEDED

TABLE 1 REQUIRED PERMITS AND APPROVALS

Agency	Permit/Approval	Status
United States Fish and Wildlife Service (FWS)	Incidental Take Statement for impacts to threatened and endangered species.	Section 7 consultation will be completed prior to project approval.
United States Army Corps of Engineers (USACE)	Section 404-Permit for filling or dredging waters of the United States.	Permit will be obtained prior to construction.
California Department of Fish and Game (DFG)	1600 Streambed Alteration Agreement Section 2080.1 Agreement for Threatened and Endangered Species	Permits will be obtained prior to construction.
California Water Resources Board (CWRB)	Section 401 -Water Discharge Permit	Permit will be obtained prior to construction.
California State Historic Preservation Officer (SHPO)	Section 106 Consultation	Letter of Concurrence on Resource Identification Efforts and Impact Findings. Memorandum of Agreement will be finalized prior to construction if impacts to the archeological site are found to be adverse.